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Efficiency management of robotic production processes at automotive industry

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Abstract

© 2016 Czech Technical University in Prague. The article presents a practical technique to improve processes in production systems of the automobile manufacturers industry. The technique is directed at optimization of the performance of processing equipment by improvement of its service system. The offered approach is based on the usage of decision support system (DSS), which gives a possibility to make scientific and reasonable administrative decisions to adjust production system parameters determined by monitoring of technological process parameters, quality control of finished parts, and the analysis of reasons for idle times. A simulation model was proposed as an intelligent heart of the developed system. To verify adequacy of the proposed solution, the model was tested on the example of production of ring gear in a robotized working area. Practical application of the model allows to reduce investments into the equipment and production infrastructure and also to improve plant operations performance due to selection of optimal parameters for the system.

Keywords

overall equipment efficiency, simulation model, technological process

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